

# SEQUENCE LISTING

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Express Mail Label No. EV334450761 US  
Date of Deposit September 29, 2003

<120> METHODS FOR TREATING DISORDERS OF CALCIUM HOMEOSTASIS

<130> OC01600 US  
<150> 60/414,948  
<151> 2002-09-30

<160> 2

<170> PatentIn version 3.1

<210> 1

<211> 1088

<212> PRT

<213> Homo sapiens

<220>

<221> VARIANT

<222> (537)..(546)

<223> deleted in human calcium ion sensing receptor variant

<220>

<221> VARIANT

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<223> Q in human calcium ion sensing receptor variant

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<221> VARIANT

<222> (1000)..(1000)

<223> G in human calcium ion sensing receptor variant

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Thr Ser Ala Tyr Gly Pro Asp Gln Arg Ala Gln Lys Lys Gly Asp Ile  
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Ile Leu Gly Gly Leu Phe Pro Ile His Phe Gly Val Ala Ala Lys Asp  
35 40 45

Gln Asp Leu Lys Ser Arg Pro Glu Ser Val Glu Cys Ile Arg Tyr Asn  
50 55 60

Phe Arg Gly Phe Arg Trp Leu Gln Ala Met Ile Phe Ala Ile Glu Glu  
65 70 75 80

Ile Asn Ser Ser Pro Ala Leu Leu Pro Asn Leu Thr Leu Gly Tyr Arg  
85 90 95

Ile Phe Asp Thr Cys Asn Thr Val Ser Lys Ala Leu Glu Ala Thr Leu  
100 105 110

Ser Phe Val Ala Gln Asn Lys Ile Asp Ser Leu Asn Leu Asp Glu Phe  
115 120 125

Cys Asn Cys Ser Glu His Ile Pro Ser Thr Ile Ala Val Val Gly Ala  
130 135 140

Thr Gly Ser Gly Val Ser Thr Ala Val Ala Asn Leu Leu Gly Leu Phe  
145 150 155 160

Tyr Ile Pro Gln Val Ser Tyr Ala Ser Ser Ser Arg Leu Leu Ser Asn  
165 170 175

Lys Asn Gln Phe Lys Ser Phe Leu Arg Thr Ile Pro Asn Asp Glu His  
180 185 190

Gln Ala Thr Ala Met Ala Asp Ile Ile Glu Tyr Phe Arg Trp Asn Trp  
195 200 205

Val Gly Thr Ile Ala Ala Asp Asp Asp Tyr Gly Arg Pro Gly Ile Glu  
 210 215 220

Lys Phe Arg Glu Glu Ala Glu Glu Arg Asp Ile Cys Ile Asp Phe Ser  
 225 230 235 240

Glu Leu Ile Ser Gln Tyr Ser Asp Glu Glu Glu Ile Gln His Val Val  
 245 250 255

Glu Val Ile Gln Asn Ser Thr Ala Lys Val Ile Val Val Phe Ser Ser  
 260 265 270

Gly Pro Asp Leu Glu Pro Leu Ile Lys Glu Ile Val Arg Arg Asn Ile  
 275 280 285

Thr Gly Lys Ile Trp Leu Ala Ser Glu Ala Trp Ala Ser Ser Ser Leu  
 290 295 300

Ile Ala Met Pro Gln Tyr Phe His Val Val Gly Gly Thr Ile Gly Phe  
 305 310 315 320

Ala Leu Lys Ala Gly Gln Ile Pro Gly Phe Arg Glu Phe Leu Lys Lys  
 325 330 335

Val His Pro Arg Lys Ser Val His Asn Gly Phe Ala Lys Glu Phe Trp  
 340 345 350

Glu Glu Thr Phe Asn Cys His Leu Gln Glu Gly Ala Lys Gly Pro Leu  
 355 360 365

Pro Val Asp Thr Phe Leu Arg Gly His Glu Glu Ser Gly Asp Arg Phe  
 370 375 380

Ser Asn Ser Ser Thr Ala Phe Arg Pro Leu Cys Thr Gly Asp Glu Asn  
 385 390 395 400

Ile Ser Ser Val Glu Thr Pro Tyr Ile Asp Tyr Thr His Leu Arg Ile  
 405 410 415

Ser Tyr Asn Val Tyr Leu Ala Val Tyr Ser Ile Ala His Ala Leu Gln  
 420 425 430

Asp Ile Tyr Thr Cys Leu Pro Gly Arg Gly Leu Phe Thr Asn Gly Ser  
 435 440 445

Cys Ala Asp Ile Lys Lys Val Glu Ala Trp Gln Val Leu Lys His Leu  
 450 455 460

Arg His Leu Asn Phe Thr Asn Asn Met Gly Glu Gln Val Thr Phe Asp  
 465 470 475 480

Glu Cys Gly Asp Leu Val Gly Asn Tyr Ser Ile Ile Asn Trp His Leu  
 485 490 495

Ser Pro Glu Asp Gly Ser Ile Val Phe Lys Glu Val Gly Tyr Tyr Asn  
 500 505 510

Val Tyr Ala Lys Lys Gly Glu Arg Leu Phe Ile Asn Glu Glu Lys Ile  
 515 520 525

Leu Trp Ser Gly Phe Ser Arg Glu Pro Leu Thr Phe Val Leu Ser Val  
 530 535 540

Leu Gln Val Pro Phe Ser Asn Cys Ser Arg Asp Cys Leu Ala Gly Thr  
 545 550 555 560

Arg Lys Gly Ile Ile Glu Gly Glu Pro Thr Cys Cys Phe Glu Cys Val  
 565 570 575

Glu Cys Pro Asp Gly Glu Tyr Ser Asp Glu Thr Asp Ala Ser Ala Cys  
 580 585 590

Asn Lys Cys Pro Asp Asp Phe Trp Ser Asn Glu Asn His Thr Ser Cys  
 595 600 605

Ile Ala Lys Glu Ile Glu Phe Leu Ser Trp Thr Glu Pro Phe Gly Ile  
 610 615 620

Ala Leu Thr Leu Phe Ala Val Leu Gly Ile Phe Leu Thr Ala Phe Val  
 625 630 635 640

Leu Gly Val Phe Ile Lys Phe Arg Asn Thr Pro Ile Val Lys Ala Thr  
 645 650 655

Asn Arg Glu Leu Ser Tyr Leu Leu Leu Phe Ser Leu Leu Cys Cys Phe  
 660 665 670

Ser Ser Ser Leu Phe Phe Ile Gly Glu Pro Gln Asp Trp Thr Cys Arg  
 675 680 685

Leu Arg Gln Pro Ala Phe Gly Ile Ser Phe Val Leu Cys Ile Ser Cys

690	695	700
Ile Leu Val Lys Thr Asn Arg Val Leu Leu Val Phe Glu Ala Lys Ile		
705	710	715 720
Pro Thr Ser Phe His Arg Lys Trp Trp Gly Leu Asn Leu Gln Phe Leu		
	725	730 735
Leu Val Phe Leu Cys Thr Phe Met Gln Ile Val Ile Cys Val Ile Trp		
	740	745 750
Leu Tyr Thr Ala Pro Pro Ser Ser Tyr Arg Asn Gln Glu Leu Glu Asp		
	755	760 765
Glu Ile Ile Phe Ile Thr Cys His Glu Gly Ser Leu Met Ala Leu Gly		
	770	775 780
Phe Leu Ile Gly Tyr Thr Cys Leu Leu Ala Ala Ile Cys Phe Phe Phe		
785	790	795 800
Ala Phe Lys Ser Arg Lys Leu Pro Glu Asn Phe Asn Glu Ala Lys Phe		
	805	810 815
Ile Thr Phe Ser Met Leu Ile Phe Phe Ile Val Trp Ile Ser Phe Ile		
	820	825 830
Pro Ala Tyr Ala Ser Thr Tyr Gly Lys Phe Val Ser Ala Val Glu Val		
	835	840 845
Ile Ala Ile Leu Ala Ala Ser Phe Gly Leu Leu Ala Cys Ile Phe Phe		
	850	855 860
Asn Lys Ile Tyr Ile Ile Leu Phe Lys Pro Ser Arg Asn Thr Ile Glu		
865	870	875 880
Glu Val Arg Cys Ser Thr Ala Ala His Ala Phe Lys Val Ala Ala Arg		
	885	890 895
Ala Thr Leu Arg Arg Ser Asn Val Ser Arg Lys Arg Ser Ser Ser Leu		
	900	905 910
Gly Gly Ser Thr Gly Ser Thr Pro Ser Ser Ser Ile Ser Ser Lys Ser		
	915	920 925
Asn Ser Glu Asp Pro Phe Pro Arg Pro Glu Arg Gln Lys Gln Gln Gln		
	930	935 940

Pro Leu Ala Leu Thr Gln Gln Glu Gln Gln Gln Gln Pro Leu Thr Leu  
 945 950 955 960

Pro Gln Gln Gln Arg Ser Gln Gln Gln Pro Arg Cys Lys Gln Lys Val  
 965 970 975

Ile Phe Gly Ser Gly Thr Val Thr Phe Ser Leu Ser Phe Asp Glu Pro  
 980 985 990

Gln Lys Asn Ala Met Ala His Arg Asn Ser Thr His Gln Asn Ser Leu  
 995 1000 1005

Glu Ala Gln Lys Ser Ser Asp Thr Leu Thr Arg His Gln Pro Leu  
 1010 1015 1020

Leu Pro Leu Gln Cys Gly Glu Thr Asp Leu Asp Leu Thr Val Gln  
 1025 1030 1035

Glu Thr Gly Leu Gln Gly Pro Val Gly Gly Asp Gln Arg Pro Glu  
 1040 1045 1050

Val Glu Asp Pro Glu Glu Leu Ser Pro Ala Leu Val Val Ser Ser  
 1055 1060 1065

Ser Gln Ser Phe Val Ile Ser Gly Gly Gly Ser Thr Val Thr Glu  
 1070 1075 1080

Asn Val Val Asn Ser  
 1085

<210> 2

<211> 1079

<212> PRT

<213> Rattus norvegicus

<400> 2

Met Ala Ser Tyr Ser Cys Cys Leu Ala Leu Leu Ala Leu Ala Trp His  
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Ser Ser Ala Tyr Gly Pro Asp Gln Arg Ala Gln Lys Lys Gly Asp Ile  
 20 25 30

Ile Leu Gly Gly Leu Phe Pro Ile His Phe Gly Val Ala Ala Lys Asp  
 35 40 45  
 Gln Asp Leu Lys Ser Arg Pro Glu Ser Val Glu Cys Ile Arg Tyr Asn  
 50 55 60  
 Phe Arg Gly Phe Arg Trp Leu Gln Ala Met Ile Phe Ala Ile Glu Glu  
 65 70 75 80  
 Ile Asn Ser Ser Pro Ser Leu Leu Pro Asn Met Thr Leu Gly Tyr Arg  
 85 90 95  
 Ile Phe Asp Thr Cys Asn Thr Val Ser Lys Ala Leu Glu Ala Thr Leu  
 100 105 110  
 Ser Phe Val Ala Gln Asn Lys Ile Asp Ser Leu Asn Leu Asp Glu Phe  
 115 120 125  
 Cys Asn Cys Ser Glu His Ile Pro Ser Thr Ile Ala Val Val Gly Ala  
 130 135 140  
 Thr Gly Ser Gly Val Ser Thr Ala Val Ala Asn Leu Leu Gly Leu Phe  
 145 150 155 160  
 Tyr Ile Pro Gln Val Ser Tyr Ala Ser Ser Ser Arg Leu Leu Ser Asn  
 165 170 175  
 Lys Asn Gln Tyr Lys Ser Phe Leu Arg Thr Ile Pro Asn Asp Glu His  
 180 185 190  
 Gln Ala Thr Ala Met Ala Asp Ile Ile Glu Tyr Phe Arg Trp Asn Trp  
 195 200 205  
 Val Gly Thr Ile Ala Ala Asp Asp Asp Tyr Gly Arg Pro Gly Ile Glu  
 210 215 220  
 Lys Phe Arg Glu Glu Ala Glu Glu Arg Asp Ile Cys Ile Asp Phe Ser  
 225 230 235 240  
 Glu Leu Ile Ser Gln Tyr Ser Asp Glu Glu Glu Ile Gln Gln Val Val  
 245 250 255  
 Glu Val Ile Gln Asn Ser Thr Ala Lys Val Ile Val Val Phe Ser Ser  
 260 265 270

Gly Pro Asp Leu Glu Pro Leu Ile Lys Glu Ile Val Arg Arg Asn Ile  
 275 280 285

Thr Gly Arg Ile Trp Leu Ala Ser Glu Ala Trp Ala Ser Ser Ser Leu  
 290 295 300

Ile Ala Met Pro Glu Tyr Phe His Val Val Gly Gly Thr Ile Gly Phe  
 305 310 315 320

Gly Leu Lys Ala Gly Gln Ile Pro Gly Phe Arg Glu Phe Leu Gln Lys  
 325 330 335

Val His Pro Arg Lys Ser Val His Asn Gly Phe Ala Lys Glu Phe Trp  
 340 345 350

Glu Glu Thr Phe Asn Cys His Leu Gln Glu Gly Ala Lys Gly Pro Leu  
 355 360 365

Pro Val Asp Thr Phe Val Arg Ser His Glu Glu Gly Gly Asn Arg Leu  
 370 375 380

Leu Asn Ser Ser Thr Ala Phe Arg Pro Leu Cys Thr Gly Asp Glu Asn  
 385 390 395 400

Ile Asn Ser Val Glu Thr Pro Tyr Met Asp Tyr Glu His Leu Arg Ile  
 405 410 415

Ser Tyr Asn Val Tyr Leu Ala Val Tyr Ser Ile Ala His Ala Leu Gln  
 420 425 430

Asp Ile Tyr Thr Cys Leu Pro Gly Arg Gly Leu Phe Thr Asn Gly Ser  
 435 440 445

Cys Ala Asp Ile Lys Lys Val Glu Ala Trp Gln Val Leu Lys His Leu  
 450 455 460

Arg His Leu Asn Phe Thr Asn Asn Met Gly Glu Gln Val Thr Phe Asp  
 465 470 475 480

Glu Cys Gly Asp Leu Val Gly Asn Tyr Ser Ile Ile Asn Trp His Leu  
 485 490 495

Ser Pro Glu Asp Gly Ser Ile Val Phe Lys Glu Val Gly Tyr Tyr Asn  
 500 505 510

Val Tyr Ala Lys Lys Gly Glu Arg Leu Phe Ile Asn Glu Glu Lys Ile



515		520		525
Leu Trp Ser Gly Phe Ser Arg Glu Val Pro Phe Ser Asn Cys Ser Arg				
530		535		540
Asp Cys Gln Ala Gly Thr Arg Lys Gly Ile Ile Glu Gly Glu Pro Thr				
545		550		555
				560
Cys Cys Phe Glu Cys Val Glu Cys Pro Asp Gly Glu Tyr Ser Gly Glu				
		565		570
				575
Thr Asp Ala Ser Ala Cys Asp Lys Cys Pro Asp Asp Phe Trp Ser Asn				
		580		585
				590
Glu Asn His Thr Ser Cys Ile Ala Lys Glu Ile Glu Phe Leu Ala Trp				
		595		600
				605
Thr Glu Pro Phe Gly Ile Ala Leu Thr Leu Phe Ala Val Leu Gly Ile				
		610		615
				620
Phe Leu Thr Ala Phe Val Leu Gly Val Phe Ile Lys Phe Arg Asn Thr				
		625		630
				635
				640
Pro Ile Val Lys Ala Thr Asn Arg Glu Leu Ser Tyr Leu Leu Leu Phe				
		645		650
				655
Ser Leu Leu Cys Cys Phe Ser Ser Ser Leu Phe Phe Ile Gly Glu Pro				
		660		665
				670
Gln Asp Trp Thr Cys Arg Leu Arg Gln Pro Ala Phe Gly Ile Ser Phe				
		675		680
				685
Val Leu Cys Ile Ser Cys Ile Leu Val Lys Thr Asn Arg Val Leu Leu				
		690		695
				700
Val Phe Glu Ala Lys Ile Pro Thr Ser Phe His Arg Lys Trp Trp Gly				
		705		710
				715
				720
Leu Asn Leu Gln Phe Leu Leu Val Phe Leu Cys Thr Phe Met Gln Ile				
		725		730
				735
Leu Ile Cys Ile Ile Trp Leu Tyr Thr Ala Pro Pro Ser Ser Tyr Arg				
		740		745
				750
Asn His Glu Leu Glu Asp Glu Ile Ile Phe Ile Thr Cys His Glu Gly				
		755		760
				765

Ser Leu Met Ala Leu Gly Ser Leu Ile Gly Tyr Thr Cys Leu Leu Ala  
 770 775 780

Ala Ile Cys Phe Phe Phe Ala Phe Lys Ser Arg Lys Leu Pro Glu Asn  
 785 790 795 800

Phe Asn Glu Ala Lys Phe Ile Thr Phe Ser Met Leu Ile Phe Phe Ile  
 805 810 815

Val Trp Ile Ser Phe Ile Pro Ala Tyr Ala Ser Thr Tyr Gly Lys Phe  
 820 825 830

Val Ser Ala Val Glu Val Ile Ala Ile Leu Ala Ala Ser Phe Gly Leu  
 835 840 845

Leu Ala Cys Ile Phe Phe Asn Lys Val Tyr Ile Ile Leu Phe Lys Pro  
 850 855 860

Ser Arg Asn Thr Ile Glu Glu Val Arg Ser Ser Thr Ala Ala His Ala  
 865 870 875 880

Phe Lys Val Ala Ala Arg Ala Thr Leu Arg Arg Pro Asn Ile Ser Arg  
 885 890 895

Lys Arg Ser Ser Ser Leu Gly Gly Ser Thr Gly Ser Ile Pro Ser Ser  
 900 905 910

Ser Ile Ser Ser Lys Ser Asn Ser Glu Asp Arg Phe Pro Gln Pro Glu  
 915 920 925

Arg Gln Lys Gln Gln Gln Pro Leu Ser Leu Thr Gln Gln Glu Gln Gln  
 930 935 940

Gln Gln Pro Leu Thr Leu His Pro Gln Gln Gln Gln Gln Pro Gln Gln  
 945 950 955 960

Pro Arg Cys Lys Gln Lys Val Ile Phe Gly Ser Gly Thr Val Thr Phe  
 965 970 975

Ser Leu Ser Phe Asp Glu Pro Gln Lys Asn Ala Met Ala His Arg Asn  
 980 985 990

Ser Met Arg Gln Asn Ser Leu Glu Ala Gln Arg Ser Asn Asp Thr Leu  
 995 1000 1005

Gly Arg His Gln Ala Leu Leu Pro Leu Gln Cys Ala Asp Ala Asp  
 1010 1015 1020

Ser Glu Met Thr Ile Gln Glu Thr Gly Leu Gln Gly Pro Met Val  
 1025 1030 1035

Gly Asp His Gln Pro Glu Met Glu Ser Ser Asp Glu Met Ser Pro  
 1040 1045 1050

Ala Leu Val Met Ser Thr Ser Arg Ser Phe Val Ile Ser Gly Gly  
 1055 1060 1065

Gly Ser Ser Val Thr Glu Asn Val Leu His Ser  
 1070 1075